

### **Remarks**

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Claims 1-7, 9-11, 13-22, and 24-42 are currently pending in the application. Claims 8, 12, and 23 have been previously canceled. Claim 42 has been amended herein.

### **2. Allowed Claims/Subject Matter**

Applicant notes with appreciation the Examiner's allowance of claims 1-7, 9-11, 13-22 and 24-41.

### **3. §102(e) Rejections**

Claim 42 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Publication No. 2003/0099450 (the '450 application).

The Examiner asserts that the '450 application teach a dispersion and dispersion slope compensating comprising a segmented core and a cladding layer wherein the fiber exhibits a dispersion of less than -50 ps/nm-km at 1580 nm (see Fig. 8) and maximum deviation of less than about 7 ps/nm-km within the wavelength band of from about 1550 nm to about 1610 nm.

Respectfully, the 102(e) rejection is traversed. The '450 application teaches a  $LP_{02}$  mode dispersion compensating fiber (as opposed to a  $LP_{01}$  mode fiber of the present invention). In this so-called higher order mode fiber of the '450 application, accumulated dispersion of the transmission fiber is compensated for in the  $LP_{02}$  fiber by converting the transmitted light signal to a higher order mode (e.g., the  $LP_{02}$  mode) and then back to the fundamental mode after compensation takes place. One of the advantages of such  $LP_{02}$  mode fibers is that they may achieve large negative dispersions in the  $LP_{02}$  mode. Thus, compensation takes place with a very short length of the  $LP_{02}$  mode dispersion compensating fiber. However, higher order mode compensation techniques require mode converters which bring in their own problems such as loss and reliability. Accordingly, the  $LP_{02}$  compensation approaches have not been commercially favored. In the present application, the dispersion compensating fiber is operated, as is conventional, in the fundamental mode (the  $LP_{01}$  mode). Although, it is not specified what mode the dispersion of the present invention fiber is measured in, it is well known and common practice for person of ordinary skill in the art to refer simply to the dispersion. Unless the mode is otherwise specified, it is commonly implied that the specified dispersion is in the fundamental mode (See attached Affidavit).

Further, the '450 application was modeled, and it has been determined that the LP<sub>02</sub> mode fiber described therein has a *positive dispersion* (emphasis added) in the LP<sub>01</sub> mode at 1580 nm (See attached Affidavit). Accordingly, the present claim 42 is not anticipated as the '450 application as it does not teach or suggest a dispersion compensating fiber having a dispersion (in the LP<sub>01</sub> mode) of less than -50 ps/nm/km at 1580 nm. Accordingly, the 102(e) rejection should be withdrawn.

Claim 42 is also rejected under 35 U.S.C. §102(e) as being anticipated by commonly assigned U.S. Publication No. 2003/0059186 (the Hebgen et al. application).

The Examiner asserts that Hebgen et al. teach a dispersion and dispersion slope compensating fiber comprising a dispersion of less than -50 ps/nm-km at 1580 nm (see Fig. 6) and maximum deviation of less than about 7 ps/nm-km within the wavelength band of from about 1550 nm to about 1610 nm (see also Fig. 6).

Respectfully, the 102(e) rejection is traversed. The fibers taught in 2003/0059186 were modeled by extending the range of wavelengths from 1570 (shown in Fig. 6) down to 1550 nm to cover the range claimed in claim 42 (1550 to 1610 nm). When extended, the variance over the range is not less than about 5 ps/nm-km within the wavelength band of from about 1550 nm to about 1610 nm, as required by claim 42. Accordingly, the 102(e) rejection should be withdrawn. Further, a fiber having the linearity and dispersion described and claimed in claim 42 is neither suggested in 2003/0059186 or any of the other cited references.

#### 4. Art Not Relied Upon

The prior art cited, namely US 6,522,819, but not relied upon by the Examiner, is not relevant to claim 42, as amended. In particular, a dispersion slope limitation has been added to claim 42 thereby clearly distinguish the '819 patent. In particular, the '819 patent teaches a dispersion slope on the order of about -0.5 ps/nm<sup>2</sup>/km at 1580 nm (see Fig. 3). As claimed, the dispersion slope of the invention, as claimed in claims 42, requires a dispersion slope less than about -2.0 ps/nm<sup>2</sup>/km at 1580 nm. Accordingly, the present invention is useful for compensating dispersion in transmission systems having low kappa transmission fibers therein, whereas the '819 is designed to compensate for high kappa transmission fibers (having kappa on the order of between 290 and 330 nm – See Col. 5, lines 55-58).

## 5. Conclusion

Based upon the above amendments, remarks, and papers of record, Applicant believes the pending claims 1-7, 9-11, 13-22, and 24-42 of the above-captioned application are allowable and patentable over the prior art of record. Applicant's respectfully request reconsideration of the pending claims and a prompt Notice of Allowance thereon.

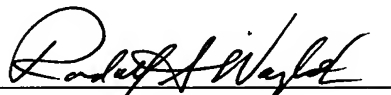
Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Randall S. Wayland at 607-974-0463.

Respectfully submitted,

CORNING INCORPORATED

Date: November 3, 2003



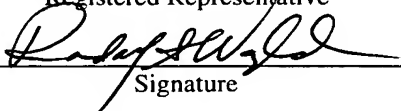
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